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THE

ONTARIO WATER RESOURCES

COMMISSION

WATER POLLUTION SURVEY

of the

TOWN OF BRACEBRIDGE

DISTRICT OF MUSKOKA

1968

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TOWN OF BRACEBRIDGE - 1968
DISTRICT OF MUSKOKA

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Report on a water pollution
survey of the town of
Bracebridge, district of Muskoka
80292

REPORT

on a

WATER POLLUTION SURVEY

of the

TOWN OF BRACEBRIDGE

DISTRICT OF MUSKOKA

MARCH 1968

District Engineers Branch

Division of Sanitary Engineering

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R E P O R T

INTRODUCTION

A water pollution survey was made of the Town of Bracebridge on September 18 and 19, 1967, as a follow-up to a survey conducted in October 1965. The purpose of the survey was to locate and record all significant sources of water pollution within the town. Such surveys are performed routinely by the Ontario Water Resources Commission as a basis for evaluating all existing and potential sources of pollution. When sources of pollution are found, corrective action is requested by the Commission. Where water and/or pollution control works appear desirable or expansions to present facilities are necessary, the Commission has a program to aid in the construction of these works.

The information received from the town officials and the Muskoka and District Health Unit is gratefully acknowledged.

I GENERAL

The Town of Bracebridge, located in the District of Muskoka, had a 1966 assessed population of 3,044 (1967 Municipal Directory).

The town is approximately 110 miles north of Toronto on the north branch of the Muskoka River at its confluence with the south branch, four miles upstream from Lake Muskoka. About two-thirds of the town's population reside on the northwest side of the river's north branch.

The general topography of the area is rugged with numerous bedrock outcroppings forming deep and narrow valleys. Where soil

overburden exists, it is chiefly clay and silt. Deposits of fine sand and gravel occur at some places also. Surface drainage is to the Muskoka River and its tributaries.

Economically, Bracebridge relies on the tourist industry; however, there are a number of established industries in or near the town manufacturing motor lamps, steel fabricated products, corning glass ware, and lumber. It is anticipated that future industrial development will increase in the area.

II WATER USES

1. Municipal

The Town of Bracebridge has two sources of domestic water supply serving the town and parts of Muskoka, Macaulay and Monck townships.

Ground water under artesian pressure is obtained from three spring areas, Barron, Peake and Leader springs, located to the north-east of town. At Silver Creek, which is fed by Peake and Leader springs, a dam is also provided and ponded spring water may be drawn off, chlorinated, and pumped to the system. However, Silver Creek was used only as a standby when the springs were the only source of the town's water supply. Water from the Peake and Leader springs areas runs by gravity to a wet well located at Silver Creek and then is pumped to a 25,000-gallon ground reservoir. Water from this reservoir is metered and pumped to a nearby standpipe of 256,000 gallons capacity. Excess water in the standpipe overflows to a wet well at Barron springs where it is mixed with the Barron springs water and then flows by gravity to a 302,000-gallon ground reservoir. Overflow

from this reservoir is directed to the Muskoka River. No treatment is provided for the water obtained from spring areas.

The second source of supply for the town is Lake Muskoka. Water from Stephens Bay at Strawberry Point is chlorinated and pumped 3.5 miles via a 12-inch-diameter main to the town's distribution system. Initial operation of the Strawberry Point pumping station commenced in the summer of 1967. The previous OWRC inspection of the Bracebridge water works system on January 8, 1968, indicated that since December 21, 1967, the Strawberry Point pumping station has been supplying all the water to the system. The spring sources were retained as standby only. The total average daily pumpage between August 9 and December 11, 1967, was 435,000 gallons of which approximately 75 per cent was consumed by the town and 25 per cent by the Corning plant.

2. Recreational

The north branch of the Muskoka River traversing the Town of Bracebridge is used predominantly for boating, swimming and fishing. Boating is more extensive downstream from the dam as the river is navigable to Lake Muskoka.

III POLLUTION CONTROL

1. Domestic Waste Treatment

Approximately 60 per cent of the Town of Bracebridge is served by a system of combined and separate sewers. One-third of the sewered area is on a combined system.

Sanitary wastes and part of the storm water are directed by means of two lift stations to a 23.5-acre 2-cell waste stabilization

pond. The design population of the plant is 2,500 persons at 100 gpcd. The final effluent is discharged to a ditch leading to a small stream which eventually outfalls to the Muskoka River. The sewage system is owned by the OWRC; operation and maintenance is carried out by the town's works department.

Where areas are not served by the sewage works system, individual septic-tank and tile-bed systems are used to treat domestic wastes.

2. Boat Wastes

Control over sewage discharges from pleasure boats into any water in Ontario is regulated by the OWRC. Any pleasure boat that has sleeping accommodations must be equipped with a marine toilet and an approved device which will store or dispose of human wastes, after June 1, 1968. Also, boats must be equipped with containers suitable for the storage of non-human wastes.

It is anticipated that with these regulations, dockside pumping and shore-disposal systems will be developed at marinas and government docks.

IV PRESENTATION OF SAMPLE RESULTS

The laboratory results of the bacteriological examinations and chemical analyses of samples collected from the watercourses and outfalls are included in the tables appended to this report. A description of the significance of the laboratory tests and a summary of water-quality objectives are also attached.

A storm sewer located east of Manitoba Street at James Street was sampled and the results revealed that the discharge

contained a high faecal coliform count indicative of domestic sewage.

Samples collected from a small watercourse draining the northwest portion of town and discharging to Muskoka River showed excessive coliform counts. Also a discharge from a storm sewer outfalling to this small watercourse between Jane and Ida streets, east of James Street, contained a faecal coliform count. Chemical analyses of samples collected from the watercourse and the storm sewer showed that detergents were also present.

An outfall located at the foot of Charles Street on the west bank of the Muskoka River was sampled and chemical analyses revealed an excessive 5-day BOD and suspended solids concentration. Bacteriological examination showed high coliform counts.

Samples collected from a storm sewer on the west shore of Muskoka River at the foot of Dominion Street showed a high 5-day BOD and suspended solids content. A detergent concentration and a high faecal coliform count was also present indicative of domestic wastes.

The storm sewer outfalling to the Muskoka River east of Kimberley Avenue had a discharge with a high coliform count. Chemical analyses also showed a detergent concentration and a high suspended solids content.

Bacteriological and chemical samples collected from the watercourse draining the southeast section of the town indicated that domestic sewage was gaining access to the stream.

Bacteriological sampling of the north and south branches of the Muskoka River indicated that the coliform counts were within the Commission's objectives for surface waters.

V DISCUSSION

The results of the sampling program indicate that domestic wastes are gaining access to the storm sewer system and to the small watercourses draining the northwest and southeast sections of town. Although bacteriological sampling of the Muskoka River showed the counts to be within the Commission's limit, the high dilution factor which would minimize pollution must be taken into account. The discharge of contaminating wastes in the storm sewers to the river constitutes a public health hazard where swimming is concerned and remedial action should be taken. Illegal connections of private sewage disposal systems to the storm sewers should be located and eliminated. The sanitary sewer system should be extended to the unserviced areas.

Because of the partially combined sewer system, storm flow to the lagoon is excessive during heavy surface runoff. This results in large quantities of sand being carried through the sewers to the lagoon. This has caused problems with pump operation, blocked inlet pipes at the lagoon and a build-up of silt in the lagoon cells. The complete installation of separate sewers within the town would minimize these problems.

VI COMMUNITY PLANNING

The Town of Bracebridge does not have a comprehensive plan through which council may establish and govern the future development of the town. As major and secondary industries are being developed in the town and the surrounding townships, this plan would be needed to provide for the passing of by-laws to regulate building and the use of land and to provide suitable public services such as schools,

parks, roads, and water and sewage works.

It is therefore recommended that council prepare and adopt an Official Plan, approved by the Minister of Municipal Affairs.

VII REFUSE DISPOSAL

The refuse disposal site is located on Lot 3, Concession 13, in the Township of Draper.

The operation is of the open-face type with some burning of refuse being carried out. Dumping is done over the edge of an almost vertical embankment with Sharpe Creek traversing the foot of the dump. The creek has been re-directed away from the dump and clay berms have been constructed to prevent refuse leachate from gaining access to the watercourse.

No problems have occurred as a result of this operation.

VIII SUMMARY AND CONCLUSIONS

A water pollution survey was made of the Town of Bracebridge in September 1967.

The town has a municipal water works system obtaining the water supply from a spring area and Lake Muskoka.

Sanitary wastes for a portion of the town are directed to a waste stabilization pond via a system of combined and separate sewers. The remaining residences utilize septic-tank and tile-bed systems. Operating problems have occurred at the waste stabilization pond due to the accumulation of sand in the system. The sand carried by storm runoff enters the combined sewers.

The laboratory results of samples collected from the drainage ditches and municipal storm sewers showed that domestic wastes are

gaining access to the storm sewers and are being discharged to the Muskoka River. Illegal connections of private waste disposal systems to the storm sewers should be eliminated.

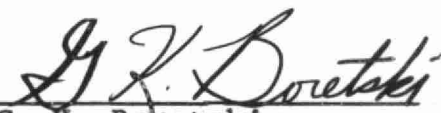
The present water pollution control program should be extended in order that separate sewers may be installed as soon as possible where combined sewers exist. The program would also provide for the extension of the sanitary sewer system to the unserved areas.

Council does not have an Official Plan for the Town of Bracebridge which sets out the policies with regard to the future development of the town. An Official Plan would aid in establishing future water and sewage works requirements.

IX RECOMMENDATIONS

1. The Town of Bracebridge should locate and eliminate the discharge of contaminating wastes to the municipal storm sewers.
2. The present water pollution control program should be accelerated in order to provide sanitary sewers for the unserved areas as soon as possible and to complete the separation of the sewers.
3. The Town of Bracebridge should prepare and adopt an Official Plan, approved by the Minister of Municipal Affairs.

Prepared by:


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Division of Sanitary Engineering.

/ct

APPENDIX

WATER QUALITY AND EFFLUENT OBJECTIVES

The OWRC objectives for surface waters in Ontario are as follows:

5-day BOD - not greater than 4 ppm

Total Coliform Count - not greater than 2,400 coliforms per 100 ml

Phenolic Equivalents - Average - not greater than 2 ppb
- Maximum - not greater than 5 ppb

pH Range - 6.7 to 8.5

A few pertinent maximum limits of contaminants in sewage treatment plant and industrial effluents are listed below. Adequate protection for surface waters except in certain specific instances influenced by local conditions, should be provided if the following concentrations and pH range are not exceeded.

5-day BOD - not greater than 15 ppm

Suspended Solids - not greater than 15 ppm

Phenols - not greater than 20 ppb

pH - 5.5 to 10.6

Iron - not greater than 17 ppm

Ether Solubles (Oil) - not greater than 15 ppm

GLOSSARY OF TERMS

Bacteriological Examinations - The Most Probable Number Technique is used by the Ontario Department of Health to obtain an approximation of the actual number of coliform organisms present. The Membrane Filter Technique is used by the OWRC to obtain a direct count of coliform organisms. These organisms are the normal inhabitants of the intestines of man and other warm-blooded animals. They are always present in large numbers in untreated sewage and are, in general, relatively few in number in other stream pollutants.

Biochemical Oxygen Demand (BOD) - The biochemical oxygen demand test indicates the amount of oxygen required for stabilization of the decomposable organic matter found in sewage, sewage effluent, polluted waters, or industrial wastes, by aerobic biochemical action.

Solids - The analyses for solids include tests for total, suspended and dissolved solids. The total solids is a measure of the solids in solution and in suspension. Suspended solids indicate the measure of undissolved solids of organic or inorganic nature whereas the dissolved solids are a measure of those solids in solution.

Oils and Ether Soluble Materials - These include oils and all other soluble materials such as tarry substances and greases. The presence of these pollutants renders water difficult and sometimes impractical to treat either for industrial or domestic use. Oils make streams unsightly and water unfit for bathing.

Phenolic Compounds - Phenols react with chlorine to produce intensely aromatic compounds. These compounds, even when highly diluted, may give a taste and odour to the water which is variously described as medicinal, chemical or iodoform. Phenols taint fish and are toxic to fish, depending on the concentration. Normal water contains no phenolic compounds.

Alkyl Benzene Sulfonate (ABS) - The alkyl benzene sulfonate portion of the anionic detergents is reported in ppm. The test is generally employed to indicate the presence of domestic wastewater. The popular use of synthetic detergent for general cleaning purposes have resulted in the incidence of residual ABS in streams. As an objective, the ABS concentration should not exceed 0.5 ppm in water used for domestic purposes.

TABLE I

STORM SEWER AND DRAINAGE DITCH OUTFALLS

SAMPLING POINT NO.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS (PPM)			TOTAL COLIFORM ORGANISMS PER 100 ML	FAECAL COLIFORM COUNT PER 100 ML	MF COLIFORM COUNT PER 100 ML	ANIONIC DETERGENTS AS ABS
				TOTAL	SUSP.	DISS.				
M-40.92 W	14-INCH DIAMETER GALVANIZED STORM SEWER SOUTH OF MANITOBA AND JAMES STS.	OCT. 28/65 SEPT. 19/67	2.8 4.8	262	3	259	24,000	24,000	42,000	
SAMPLE EXHAUSTED										
M-40.76 D	LOCAL WATERCOURSE AT 14-INCH DIAMETER CULVERT SOUTH SIDE OF CHARLES ST.	OCT. 28/65 SEPT. 18/67	2.0 2.8	90 234	3 11	87 223	21,000	230	430	0.8
M-40.75 W	15-INCH DIAMETER CONCRETE STORM SEWER AT JAMES AND JANE STS.	OCT. 28/65 SEPT. 19/67	5.0 6.4	264 118	19 7	245 111	110,000+	24,000	1,110,000	0.2
M-40.71 D	LOCAL WATERCOURSE TO MUSKOKA RIVER EAST OF CNR STATION	OCT. 28/65 SEPT. 18/67	1.9 1.5	118 108	5 5	113 103	120,000	43,000	14,000	0.1
M-40.87 W	STORM SEWER TO MUSKOKA RIVER AT FOOT OF CHARLES STREET	OCT. 28/65 SEPT. 19/67	2.9 20	132 122	10 27	122 95	110,000+	110,000+	108,000	0.6
M-40.58 W	8-INCH DIAMETER CONCRETE STORM SEWER AT REAR OF ABANDONED WOOLLEN MILL	OCT. 28/65 SEPT. 18/67	45	342	54 NOT LOCATED	288			770,000	
M-40.57 W	10-INCH DIAMETER STORM SEWER WEST OF HIGHWAY 118 BRIDGE	OCT. 28/65 SEPT. 18/67	48	356	53 NOT LOCATED	303			650,000	
M-40.56 W	8-INCH DIAMETER GALVANIZED STORM SEWER AT BOTTOM OF DOMINION STREET	OCT. 28/65 SEPT. 18/67	20 26	420 354	153 116	267 238	11,000,000+	2,400,000	48,000	2.0

TABLE 1 CONT'D

SAMPLING POINT NO.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS (PPM)			TOTAL COLIFORM ORGANISMS PER 100 ML	MPN FAECAL COLIFORM COUNT PER 100 ML	MF COLIFORM COUNT PER 100 ML	ANIONIC DETERGENTS AS ABS
				TOTAL	SUSP.	DISS.				
M-40.52 W	14-INCH DIAMETER GALVANIZED STORM SEWER EAST SIDE OF KIMBERLEY STREET	OCT. 28/65 SEPT. 19/67	11 8	352 342	12 140	340 202	110,000	9,300	62,000	0.3
M-40.57 D	LOCAL WATERCOURSE NORTH OF WOODCHESTER PARK AND WOODCHESTER AVENUE	OCT. 28/65 SEPT. 18/67	1.8 0.3	228 194	2 12	226 182	2,300	2,300	18,000	0.0
M-40.54 D	LOCAL WATERCOURSE WEST OF MUSKOKA ROAD AND WOODCHESTER AVENUE	OCT. 28/65 SEPT. 18/67	2.0 58	192 274	4 21	188 253	11,000,000+	11,000,000+	9,000	0.8
M-40.53 W	8-INCH DIAMETER GALVANIZED STORM SEWER AT END OF BOWMAN STREET	OCT. 28/65 SEPT. 18/67	60	328	122	206 NOT LOCATED			510,000	
M-40.53 D	LOCAL WATERCOURSE AT END OF BOWMAN STREET	SEPT. 18/67	4.4	230	12	218	4,600,000	2,400,000		0.1
M-40.51 W	8-INCH DIAMETER CONCRETE STORM SEWER NORTH SIDE OF SHIER STREET	OCT. 28/65 SEPT. 18/67	20	380	65	315 INSUFFICIENT FLOW			36,000,000	
M-40.50 W	LOCAL WATERCOURSE AT SHIER STREET	OCT. 28/65 SEPT. 18/67	1.8 3.2	192 228	4 9	188 219	230,000	2,300	89,000	0.2

TABLE 11

MUSKOKA RIVER - NORTH AND SOUTH BRANCHES

SAMPLING POINT NO.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS (PPM)			TOTAL COLIFORM ORGANISMS PER 100 ML	MPN FAECAL COLIFORM COUNT PER 100 ML	MF COLIFORM COUNT PER 100 ML	ANIONIC DETERGENTS AS ABS
				TOTAL	SUSP.	DISS.				
M-40.97	MUSKOKA RIVER (N.B.) AT BOSS ROCK	OCT. 28/65 SEPT. 18/67	0.8	46	2	44	93	43	210	0.0
M-40.85	MUSKOKA RIVER (N.B.) 100 FEET DOWNSTREAM FROM CHARLES ST. OUTFALL	OCT. 28/65 SEPT. 18/67					210	93	370	
M-40.60	MUSKOKA RIVER (N.B.) UPSTREAM FROM GENERATING STATION	OCT. 28/65 SEPT. 18/67					230	0	70	
M-40.56	MUSKOKA RIVER (N.B.) DOWNSTREAM FROM GENERATING STATION	SEPT. 18/67					930	930		
M-40.55	MUSKOKA RIVER (N.B.) AT FOOT OF DOMINION ST.	OCT. 28/65 SEPT. 18/67	2.2	34	10	24	430	23	310	0.0
M-40.54	MUSKOKA RIVER (N.B.) AT BOTTOM OF DILL ST.	SEPT. 18/67					930	230		
M-40.53	MUSKOKA RIVER (N.B.) DOWNSTREAM FROM LOCAL WATERCOURSE EAST SIDE OF TOWN	SEPT. 19/67					150	23		
M-40.30	MUSKOKA RIVER (N.B.) UPSTREAM FROM CONFLUENCE WITH SOUTH BRANCH	OCT. 28/65 SEPT. 19/67	0.7	54	3	51	930	930	310	0.0

TABLE II - CONT'D

SAMPLING POINT NO.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS (PPM)			TOTAL COLIFORM ORGANISMS PER 100 ML.	MPN FAECAL COLIFORM COUNT PER 100 ML.	MF COLIFORM COUNT PER 100 ML.	ANIONIC DETERGENTS AS ABS.
				TOTAL	SUSP.	DISS.				
MS-40.35	MUSKOKA RIVER (S.B.) UPSTREAM FROM HIGHWAY 11B BRIDGE	OCT. 28/65 SEPT. 18/67					230	43	210	
MS-40.3	MUSKOKA RIVER (S.B.) AT HIGHWAY 11B BRIDGE	SEPT. 18/67					2,300	29		

APPENDIX I

SIGNIFICANCE OF LABORATORY ANALYSES

Bacteriological Examination

The presence of coliforms indicates pollution from human or animal excrement, or from some non-faecal forms. The objectives for surface water quality in Ontario is a maximum of 2400 organisms per 100 millilitres.

The OWRC Laboratories employ the Membrane Filter (MF) technique of examination to obtain a direct enumeration of coliform organisms. The Department of Health Laboratories use the Most Probable Member (MPN) enumeration and coliform counts are reported as Total Coliform Organisms (TC) and Faecal Coliform Organisms (FC).

Sanitary Chemical Analyses

Biochemical Oxygen Demand (BOD)

Biochemical Oxygen Demand is reported in parts per million (PPM) and is an indicated of the amount of oxygen required for the stabilization of decomposable organic or chemical matter in water. The completion of the laboratory test required five days, under the controlled incubation temperature of 20° Centigrade.

The OWRC objective for surface water quality is an upper limit of four (4) ppm.

Solids

The value for solids, expressed in parts per million, is the sum of the values for the suspended and the dissolved matter in the water. The concentration of suspended solids is generally

the most significant of the solids analyses with regard to surface water quality. The effects of suspended solids in water are reflected in difficulties associated with water purification, decomposition in streams and injury to the habitat of fish.

Nitrogen

Ammonia Nitrogen or sometimes called free ammonia is the insoluble product in the decomposition of nitrogenous organic matter. It is also formed when nitrates and nitrites are reduced to ammonia either biologically or chemically. Some small amounts of ammonia, too, may be swept out of the atmosphere by rain water.

The following values may be of general significance in appraising free ammonia content: Low 0.015 to 0.03 ppm; moderate 0.03 to 0.10 ppm; high 0.10 or greater.

Total Kjeldahl is a measure of the total nitrogenous matter present except that measured as nitrite and nitrate nitrogens. The Total Kjeldahl less the Ammonia Nitrogen measures the organic nitrogen present. Ammonia and organic nitrogen determinations are important in determining the availability of nitrogen for biological utilization. The normal range for Total Kjeldahl would be 0.1 to 0.5 ppm.

Nitrite Nitrogen

Nitrite is usually an intermediate oxidation of ammonia. The significance of nitrites, therefore, varies with their amount, sources, and relation to other constituents of the

sample, notably the relative magnitude of ammonia and nitrite present. Since nitrite is rapidly and easily converted to nitrate, its presence in concentrations greater than a few thousandths of a part per million is generally indicative of active biological processes in the water.

Nitrate Nitrogen

Nitrate is the end product of aerobic decomposition of nitrogenous matter, and its presence carries this significance. Nitrate concentration is of particular interest in relation to the other forms of nitrogen that may be present in the sample. Nitrates occur in the crust of the earth in many places and are a source of its fertility.

The following ranges in concentration may be used as a guide: low less than 0.1 ppm; moderate 0.1 to 1.0 ppm; high greater than 1.0 ppm.

Anionic Detergents as ABS

The presence of anionic detergents as ABS is an indication that domestic waste is present.

Phenols

The presence of phenol or phenolic equivalents is generally associated with discharges containing petroleum products, or with wastes from some industries. It is generally conceded that adequate protection of surface waters will be provided if the concentration of phenols in waste discharges does not exceed

20 parts per billion (ppb). Phenolic type waste can cause objectionable conditions in water supplies and might taint the flesh of fish.

Iron

Water for domestic use should contain less than 0.3 parts per million of iron in order to avoid objectionable tastes, staining and sediment formation. Iron concentrations of not greater than 17 parts per million in waste discharges should permit adequate protection of surface waters.

APPENDIX

IMPLEMENTATION OF WATER AND SEWAGE WORKS PROGRAMS

Currently, there are three general methods which may be utilized for implementing sewage and water works programs. These are: 1) to enter into an agreement with the OWRC for the construction of the treatment and collector works with an obligation to pay the debt retirement and operating charges over the term of the agreement with the facility reverting to the municipality at the end of the term of the agreement, 2) by requesting the provision of service from a Provincially-owned project, and 3) by proceeding with the construction independently and meeting capital costs by the sale of debentures.

OWRC/MUNICIPAL PROJECTS

For the construction of water and sewage works under agreement with this Commission, the works are provided and developed under Sections 39 to 46 of the Ontario Water Resources Commission Act.

For this type of arrangement, the Commission utilizes a sinking fund and consequently the annual payments are based on a specific debt retirement period and the payments are unchanged for the period of the agreement. This type of project may be financed over a period of time up to a maximum of thirty years. The annual charges for projects constructed under this agreement are determined as follows:

1. Capital Repayment

As noted, OWRC financing is by the sinking fund method and an annual payment of approximately 2 per cent of the capital

cost is required to retire a debt over a thirty-year period.

2. Interest

On new Commission projects, interest is calculated at the current rate.

3. Reserve Fund

To provide money for repairs and replacements, Section 40 of The Ontario Water Resources Commission Act provides for the establishment of a reserve fund by the Commission. It is important to note that this fund is established in the name of the municipality and the balance consequently earns interest. It has now been established by Commission minute that the reserve fund billing for each project shall continue only until the fund reaches an amount of ten times the initial annual billing and the reserve fund billing shall be re-imposed only when the fund has been depleted to 80 per cent or less of the maximum amount.

4. Operating Costs

Under OWRC agreement, the municipality is responsible only for the operating costs directly attributed to the project in the municipality. Therefore, no charges are made by the Commission for the services of head office personnel who are available as required to advise on the satisfactory operation and maintenance of the project.

PROVINCIALY-OWNED WORKS

In June, 1967, the Honourable J. R. Simonett, Minister of Energy and Resources Management, made an announcement which expanded the authorization of this Commission for the provision of water supply and sewage treatment facilities. This new program allows the Commission to construct entire water and sewage works facilities for small municipalities. The capital costs of these can be amortized over a 40 year period.

A slight variation of this program could be implemented in that the municipality may request that this Commission provide only the major water and sewage works facilities as Provincially-owned works, and develop the water distribution and sewage collector systems under the standard type of Commission project. It would appear that where applicable, it would be more advantageous for the municipality to proceed on the basis of requesting this Commission to develop entire systems as Provincially-owned works.

The associated cost of supplying these works, including amortization of capital costs, together with operating and maintenance charges, will be recovered by the sale of service to the affected municipalities by rates determined on a usage basis. These facilities will be wholly-owned by the Province of Ontario and the arrangements for service will be formalized by contracts between the Commission and the municipality concerned. The installations will be operated entirely at cost with appropriate provision for adjustment in rate.

DEVELOPMENT

If a municipality, after considering the alternatives, wishes this Commission to consider Provincially-financed projects, application forms should be completed and submitted together with a resolution of the Municipal council. A draft of the suggested wording of the resolution is included with the application forms.

If the proposed works are to be built by the municipality on its own initiative or as a formal project under agreement with this Commission, it is required that the Council retain a consulting engineer to prepare preliminary engineering reports on the proposed work. If a Provincial system is contemplated, no action should be taken with respect to retaining a consulting engineering firm as the Commission will designate a consulting engineer to carry out the Provincial portion of the work and it would be advantageous if the municipal portion be studied and reported on by the same engineer.



LEGEND

- M-40.3 - STREAM SAMPLING POINT SHOWING MILEAGE
- M-40.71 - OUTFALL SHOWING STREAM AND MILEAGE
- TYPE OF OUTFALL
- DRAINAGE OR DITCH
- STORM SEWER

ONTARIO WATER RESOURCES COMMISSION

TOWN OF BRACEBRIDGE
WATER POLLUTION SURVEY
1966

SCALE: 1" = 125' 0" 250' 500' FT.
 DRAWN BY: R.S. DATE: MARCH 1966
 CHECKED BY: DRAWING NO: 66-20